

551.506(73)

SECTION VII.—WEATHER AND DATA FOR THE MONTH.

THE WEATHER OF FEBRUARY, 1917.

P. C. DAY, Climatologist and Chief of Division.

[Dated: Weather Bureau, Washington, D. C., Apr. 2, 1917.]

PRESSURE AND WINDS.

The distribution of the mean atmospheric pressure over the United States and Canada and the prevailing direction of the winds are graphically shown on Chart VII, while the average values for the month at the several stations, with the departures from the normal, are shown in Tables I and III.

For February as a whole the barometric pressure averaged below the normal from the Lakes Region eastward, and also in the central Ohio Valley. Elsewhere it was above the average. The plus departures were not large, and likewise the minus departures were generally small, except in the New England States and to the north-eastward, where they were rather pronounced.

At the beginning of the month relatively low pressure prevailed from the lower Lakes Region to the Gulf and over all sections to the eastward; elsewhere it was generally above the normal, being unusually high in the West and far Northwest. The high pressure soon overspread most sections and continued during the first decade, except in the region of the Great Lakes and to the eastward, where pressure was generally below the average. Except for the occasional passage of a low area, the pressure continued generally above the normal during the greater part of the second decade; however, toward the latter part generally low pressure overspread most sections and continued for several days, except in the Southeast, where the readings were near or slightly above normal. During the third decade several rather extensive high and low areas moved across the northern and central portions of the country, while in the South the pressure remained generally near the normal. The month closed with relatively high pressure throughout the central and northern districts and nearly normal pressure continued in the South.

The distribution of the HIGHS and LOWS was generally favorable for westerly and northwesterly winds in the New England and Middle Atlantic States, the Lakes Region, and also in the upper Mississippi and the middle and lower Missouri valleys, while southerly and southwesterly winds were frequent in the South Atlantic and Gulf States. Elsewhere variable winds prevailed.

TEMPERATURE.

The severe cold wave that covered the northern Plains region at the close of January extended southeasterly during the first few days of February, accompanied by rapid and extreme temperature falls in the districts east of the Rocky Mountains. On the morning of the 3d the temperature was below freezing throughout nearly every portion of the Florida mainland, light frost was reported on the east coast as far south as Long Key, while at Key West the lowest February temperature in 45 years, 44°, was equaled. Another sharp cold wave reached the Southern States on the 5th.

The first half of the month was colder than the normal in all districts east of the Rockies and warmer on the

Pacific coast, while during the last half it was warmer than the average in central, southern, and eastern districts, and colder in the northwest.

For the month as a whole temperatures were lower than the normal in all northern districts, especially over the border States from Montana eastward, and in the middle Plateau. In the central and western Cotton Region and southern Plains States the average temperature was somewhat above the normal, while in the remaining districts it was close to the normal.

Freezing weather occurred at some time during the month in all portions of the country, except parts of California and Arizona, and the islands south of the Florida mainland. The minimum temperatures at numerous stations in the South were as low as or lower than for any previous February of record.

PRECIPITATION.

At the beginning of February light snow or rain occurred in the Lakes Region and to the eastward and south-eastward, but during the next few days fair weather prevailed in most sections. About the middle of the first decade there was light precipitation in most northern States east of the Rocky Mountains, also in the Ohio Valley and to the eastward, and during the latter part of the decade precipitation occurred in the Lakes Region and the Atlantic States.

About the middle of the second decade rather heavy rains fell in portions of the eastern Gulf States and moderate amounts to the northeastward. During the next few days light rain or snow occurred in many portions of the northern border States, and during the last few days of the decade stormy weather, with light precipitation, prevailed in the southeastern and eastern portions of the country as well as in portions of the Pacific States. Much unsettled weather, with rather frequent but light snow or rain, occurred along the northern border during the first half of the third decade, and light rain fell in the Atlantic and east Gulf States the following few days. During this decade precipitation likewise occurred in most of the Pacific Coast States, with occasional heavy rains in portions of California. The month closed with generally fair weather in all districts, except in the Ohio Valley, where light rain or snow was falling.

For the month as a whole the precipitation was decidedly less than normal, except over the Southern Appalachian region and in portions of Alabama and Mississippi, where it was somewhat more. But little precipitation occurred in the Great Plains States, and it was decidedly below the normal in the lower Missouri and Ohio Valleys, the Lakes Region, and over most of Florida and Texas. In portions of Texas, southeastern New Mexico, and central Kansas there was no precipitation during the entire month.

SNOWFALL.

There was a lack of snow cover during the greater part of the month in most of the Central States and from the Ohio Valley eastward, but in the more northern of the winter-grain districts the cover was ample to protect the crops. The lower elevations of the mountain regions

of the West continued covered with snow throughout the month, which necessitated much feeding of stock.

At the close of the month the prospective water supply from the snow in the western mountain districts continued good in most central and northern districts, where large amounts of well-packed snow had accumulated. However, in New Mexico and portions of some adjoining States the accumulated depths of snow were below the averages, and the outlook for water was less promising.

RELATIVE HUMIDITY.

The relative humidity for the month as a whole was generally above the normal in the Rocky Mountain region and to the westward, also to the eastward in much of the northern third of the country. On the other hand the atmosphere was drier than usual for the season over most of the central and southern portions of the Rocky Mountains.

GENERAL SUMMARY.

The cold wave during the first few days of the month did much damage to truck crops in the Gulf and South Atlantic States, and also to peach buds in the Ozark district, in Arkansas, as well as in the Lakes Region and parts of the Ohio Valley. Much grape fruit was injured in the Southern States, and probably 50 per cent of the pineapples were destroyed in Florida. Citrus trees in northern and central Florida were defoliated, and the fruit was frozen on the trees, while many young trees were killed to the bank, but no general damage resulted in the southern part of the State.

The planting of corn, cotton, and sugar cane in portions of Florida, southern Texas, and the lower Mississippi Valley, and the replanting of truck crops in the Gulf and South Atlantic States made good progress under the warm and favorable weather during the latter part of the month, although it was too dry in much of Florida and too wet in some other Southeastern States for rapid advancement.

Winter wheat was considerably damaged from the Ohio Valley eastward because of the absence of snow cover, and there was a decided lack of moisture from the central and lower Missouri Valley southwestward to northern Texas, where the growth was poor. However, the northern part of the winter-wheat belt had a good snow cover and there was little or no damage. The crop was benefited by rain in California, but the condition was unsatisfactory in Washington.

Cold weather and snow caused some loss of stock in the Dakotas, Montana, Wyoming, and Utah, but stock was in good condition in Colorado, Idaho, and California. The conditions were favorable for ice harvest in all northern and central districts, and a plentiful supply was available for storage.

SEVERE LOCAL STORMS.

The following notes of severe storms have been extracted from reports from officials of the Weather Bureau:

California.—A storm of marked intensity prevailed over the entire State on February 24 and 25, 1917, and was accompanied by torrential rains and destructive winds, being most severe along the immediate coast. At Point Reyes Light a maximum wind velocity of 101 miles an hour was recorded, and at San Francisco windows and telephone wires were broken. At San Jose the storm was the indirect cause of the loss of three lives and

an extraordinary amount of damage resulted from the wind and water, while at San Diego several buildings were unroofed. Railroad transportation was delayed by the excessive precipitation causing snowslides in the high Sierra and landslides in the Coast Range. At Helen Mine, Lake County, the total precipitation for the three days, February 23 to 25, amounted to 16.73 inches, and of this amount 10.35 inches fell within a period of 24 hours.

Alabama.—On the afternoon of February 23, 1917, tornadoes and severe local storms occurred at numerous places throughout central Alabama, doing considerable damage to property and killing several people. One of the most severe of the tornadoes originated about 1 p. m. near Whitsitt, Hale County, and passed north-northeastward over Rosemary and thence northeastward over the northwestern portion of Perry County, killing six persons. Another destructive tornado, moving northeastward, struck Stewartsville, Coosa County, and Hollins, Clay County, about 3:30 p. m. of the same day, killing 10 persons. The paths of these storms ranged from two or three hundred feet to nearly a mile in width.

Average accumulated departures for February, 1917.

Districts.	Temperature.			Precipitation.			Cloudiness.		Relative humidity.	
	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure for the current month.	Accumulated departure since Jan. 1.	General mean for the current month.	Departure from the normal.	General mean for the current month.	Departure from the normal.
	° F.	° F.	° F.	In.	In.	In.	0-10.		P. ct.	
New England.....	21.5	-4.2	-3.3	2.40	-1.10	-1.40	5.7	+0.3	73	-1
Middle Atlantic.....	30.3	-2.6	-0.1	1.99	-1.20	-1.50	6.0	+0.5	68	-5
South Atlantic.....	47.1	-0.7	+4.9	2.49	-1.50	-2.30	4.6	-0.6	71	-4
Florida Peninsula.....	65.2	-1.6	+3.3	0.40	-1.60	-4.00	2.9	-1.3	74	-6
East Gulf.....	51.0	+0.2	+6.3	4.93	+0.20	+0.70	4.9	-0.6	71	-4
West Gulf.....	51.6	+2.2	+6.4	1.27	-1.40	-2.90	4.6	-0.3	67	-7
Ohio Valley and Tennessee.....	32.4	-3.2	-0.4	2.17	-1.40	+0.10	6.3	+0.1	71	-4
Lower Lakes.....	19.0	-5.7	-5.9	1.39	-1.10	-1.10	6.9	+0.1	80	0
Upper Lakes.....	10.5	-8.7	-10.9	0.89	-0.90	-1.60	5.9	-0.4	83	+2
North Dakota.....	-0.6	-7.6	-9.6	0.66	+0.10	+0.10	5.3	+0.8	86	+5
Upper Mississippi Valley.....	18.1	-5.5	-6.4	0.48	-1.20	-1.40	5.4	+0.1	75	-4
Missouri Valley.....	21.9	-2.5	+0.5	2.68	-0.80	-0.80	4.8	-0.4	72	-4
Northern slope.....	19.4	-2.1	-3.8	1.04	+0.20	+0.10	6.5	+1.3	73	0
Middle slope.....	33.8	+1.4	+4.2	0.32	-0.40	-0.30	4.3	-0.2	59	-8
Southern slope.....	47.6	+3.0	+5.3	0.40	-0.50	-0.30	3.6	-0.9	45	-17
Southern Plateau.....	43.5	-1.3	-4.1	0.35	-0.30	-0.20	3.1	-0.5	52	+4
Middle Plateau.....	28.7	-4.3	-16.0	0.80	-0.30	-0.70	5.0	-0.2	70	+3
Northern Plateau.....	30.5	-1.6	-5.4	1.28	-0.10	-0.70	7.8	+1.4	77	+2
North Pacific.....	40.3	-1.0	-2.2	3.86	-1.40	-4.10	8.1	+0.9	75	-7
Middle Pacific.....	48.7	-0.3	-3.5	4.66	+0.40	-1.80	5.1	-0.5	71	-6
South Pacific.....	53.3	+0.7	-1.7	3.60	+1.20	+0.90	4.4	0.0	70	-1

551.566 (261.1)

WEATHER CONDITIONS ON THE NORTH ATLANTIC DURING FEBRUARY, 1916.

The data presented are for February, 1916, and comparison and study of the same should be in connection with those appearing in the REVIEW for that month. Chart IX (xiv-18) shows for February, 1916, the averages of pressure, temperature, and the prevailing direction of the wind at 7 a. m., 75th meridian time (Greenwich mean noon), together with notes on the locations and courses of the more severe storms of the month.